

Finer Points

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SUPERABRASIVE INDUSTRY REVIEW

INTERTECH 2015 Call for Papers, Registration Materials & Conference Details

THIS ISSUE

What is
INTERTECH 2015?

INTERTECH 2015
Call For Papers

News and Notes

New Products

IDA Member
Companies

INTERTECH 2015
Organizing
Committees

INTERTECH 2015
Technical Advisory
Committees

Calendar of Events

Venue for
INTERTECH 2015

INTERTECH
Conference
Registration Form

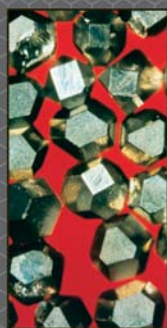
INTERTECH 2015
Promotional
Opportunities

THE LONGEST
RUNNING
MAGAZINE
DEDICATED
SOLELY TO THE
TECHNOLOGY AND
APPLICATION OF
SUPERABRASIVES



**Call for
PAPERS**
INTERTECH
An International Technical Conference on Diamond,
Cubic Boron Nitride and their applications.
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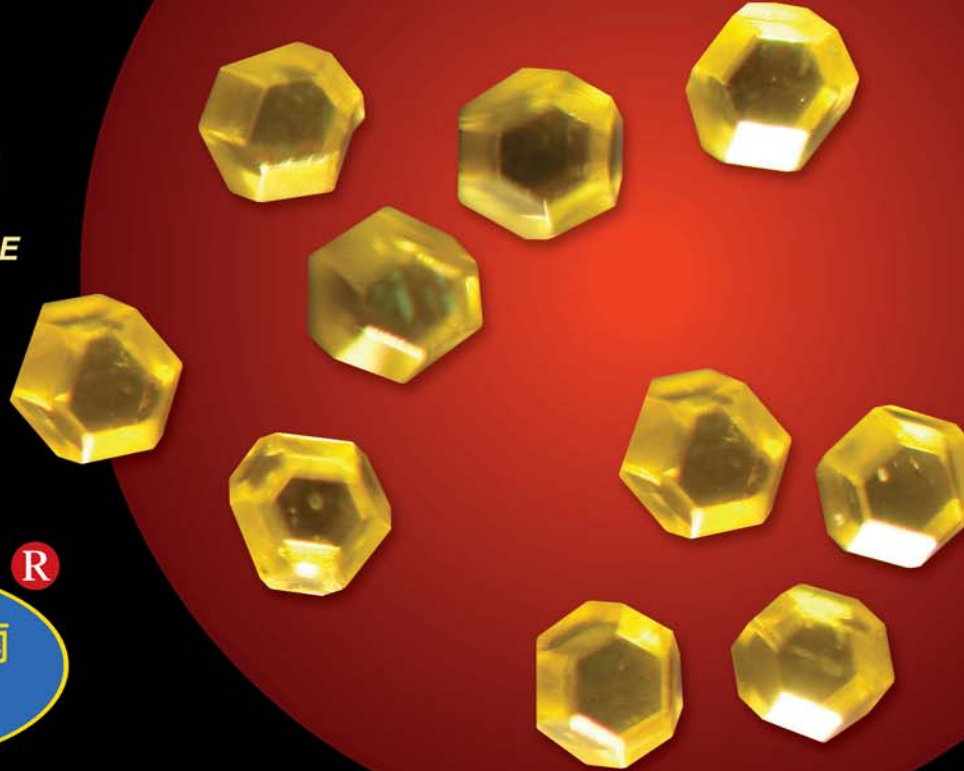
2015
Indianapolis Downtown Marriott
INDIANAPOLIS, INDIANA USA
May 19 & 20, 2015



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Finer Points



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COVER PHOTO

Photos of industry applications, superabrasive materials and tools courtesy of Members of the Industrial Diamond Association of America, The Boeing Company and Fiat Chrysler Automobiles US LLC.

FINER POINTS is the longest running publication devoted exclusively to the understanding, selection and application of diamond, cubic boron nitride and related materials. It is edited for recipients who are involved in some way with these "superabrasives", either as providers of the materials, producers of products containing the materials or users of these products (e.g., grinding wheels, dressing tools, drill bits, saw blades, sawing wires, cutting tools, polishing compounds, CVD film products, etc.).



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A Finer Point of View...

At the time this editorial is being written, 2014 is coming to an end. It's common this time of year to reflect on the past year and look ahead to the opportunity the fast approaching year brings.

The Industrial Diamond Association has had a very successful year in 2014. The IDA continues to live out its mission to facilitate growth in the Superabrasives Industry through promotion and education on the use, application and development of superabrasive materials in the North America Market.

In November, a one day educational conference on "Superabrasive Materials, Principles and Applications" was held in Huntsville, AL. This was the first time the IDA has held this course as a stand-alone event with 58 representatives from 27 companies in attendance. The day featured presenters from several member companies sharing the foundational principles behind the selection and method-of-use for superabrasive tools in wide variety of grinding, machining, polishing and other applications.

The response from those in attendance was very positive. Some of the feedback was that the course needed to go deeper into specific subjects or to a more advanced level. To get this level of expertise would require more than a day's investment in time. In addition, diving deeper into applications would require the members to present specific information about the products their companies manufacture or represent which would have defeated the goal of maintaining the educational and non-commercial theme of the course. This level of application expertise is available by working closing with IDA member companies.

Looking ahead to 2015, an opportunity for a more in-depth understanding of the latest advances in the Superabrasive Industry will be INTERTECH 2015, schedule for May 19th and 20th in Indianapolis. Attendees from around the world will come for the opportunity to

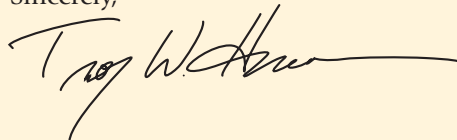


PRESIDENT
Troy Heuermann

network and hear experts from various industries, academia and government agencies share their expertise and advancements throughout the two day conference. This year's INTERTECH will offer papers from a variety of industries including Aerospace, Concrete, Oil and Gas and others with a particular focus on the Automotive Industry.

Looking back over my short 20 year career in the abrasives industry, it is amazing to me the changes we have seen. Not long ago the concept of using diamond or CBN was new to many in marketplace. Now, in 2015, the use of superabrasive materials continues to expand into new applications and has become more common in a variety of industries around the world. Investment in automated processes and other technology continues to demand new and improved bonds, minerals, coatings, methods and machine developments. The industries that can rapidly adapt and lead in today's fast paced world will be the winners. The IDA's mission is to help ensure that the Superabrasives Industry is one of those industries.

Sincerely,



Troy Heuermann
Industrial Diamond Association of America



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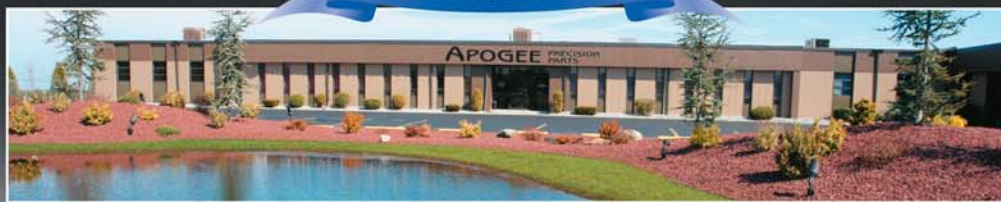
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TERRY KANE, Editor

EDUCATION COURSE REVIEW

This past November, the Industrial Diamond Association of America (IDA) presented the "Superabrasive Materials, Principles and Applications" course in Huntsville Alabama. An overflow group of interested attendees filled the classroom to hear instructors from the IDA deliver comprehensive presentations on all aspects of diamond and cubic boron nitride (cBN).

The IDA formulated this course to address an industry-wide need for education on accepted principles and practices in the industry. The day long program gave attendees an education on superabrasive materials in the primary areas of grinding and machining with peripheral explanation about other uses, such as a wear resistant materials and non-abrasive applications.

The classroom was filled with a broad range of engineers, toolmakers, machine operators, suppliers, end users and other interested individuals. Some currently employ superabrasives in manufacturing operations and others wanted to expand their knowledge on how they could optimize the use of superabrasives and perhaps expand their use into other areas and applications.

Other attendees were unfamiliar with superabrasives or were currently using conventional abrasives and wanted to understand the advantages of superabrasives and how they can be applied to increase productivity, reduce scrap and improve the cost effectiveness in manufacturing operations. Judging from the post-course survey, participants overwhelmingly felt this was one of the best courses they had ever attended on superabrasives and were extremely impressed with the content and knowledge of the instructors.

EDUCATION CRITICAL TO MANUFACTURING SUCCESS

Education has been a major topic today across all mainstream news media and trade publications. The US Government has even initiated programs that address the issue of a manufacturing workforce that is seriously lacking in both numbers and skilled labor headcount. With many companies reshoring and a host of others in the midst of building new plants, or retooling existing operations to meet rising productivity demands, new operations have seen an influx of sophisticated machines. To match this technological upheaval, it has become paramount that skilled labor be educated in the characteristics, properties and performance of the new-age abrasives being applied. Education has become one of the most important challenges for every industry and manufacturing operation.

The Industrial Diamond Association of America (IDA) has met that challenge. Going back almost seven decades the IDA has set the standard for education and training, beginning with natural diamond first used in carbide grinding applications. Then came the windfall of manufactured superabrasives and the face of manufacturing changed forever. The IDA



Superabrasives Materials, Principles & Applications

once again was in the forefront educating an established workforce on the advantages and application of these new materials.

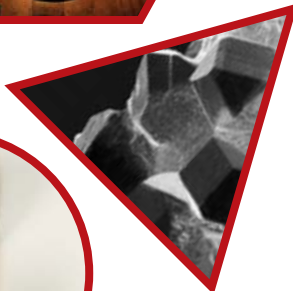
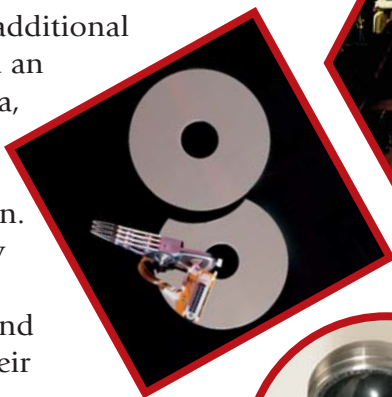
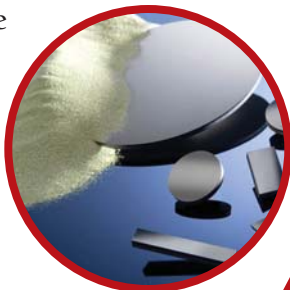
Diamond, Cubic Boron Nitride (cBN), CVD Diamond, CVD cBN, Nanodiamond, Polycrystalline Diamond and Polycrystalline cBN materials are all classified as "superabrasives". This nomenclature was chronicled over 50 years ago due to the performance and life expectancy of these materials in machining and grinding applications. Whether it's machining of hardened steel in automotive or grinding of exotic materials in aerospace, superabrasives have increased productivity and reduced scrap. Across all industries and in myriad applications superabrasives have set the benchmark for achieving Six Sigma operations.

Of course the characteristics and properties of superabrasives have taken them well beyond material removal applications. Superabrasives can be found today in the medical field as drug carrying vehicles to kill cancerous tumors or as prosthetic joints and coatings in

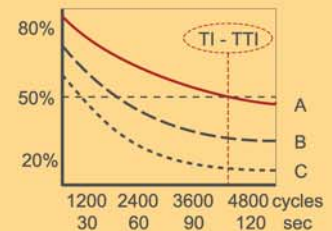
Orthopedics. In everything from Electronic heat sinks and storage texturing for hard drives, to diamond windows and Optic coatings, the use of superabrasives are changing the face of manufacturing and product performance.

The post-course survey brought to light a few critical defining elements. Attendees want additional information and an expanded agenda, for which they would happily attend once again. In addition, they overwhelmingly would recommend this course to their colleagues.

So, in the fall of 2015 the IDA will once-again host another group wanting to be educated on superabrasive materials principles and applications!



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**An International Technical Conference on Diamond,
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www.intertechconference.com

**Indianapolis Downtown Marriott
INDIANAPOLIS, INDIANA USA**

May 19 & 20, 2015

WHAT IS INTERTECH 2015?

INTERTECH 2015 is the Biennial International Conference dedicated to technological advancement and application development with an emphasis on increased productivity and performance using industrial diamond, cubic boron nitride, CVD diamond, polycrystallines and related materials classified as superabrasives. **INTERTECH 2015** will feature superabrasive applications and developments specific to the automotive industry. The reason for this is the expanded use of new and difficult to machine and grind materials used in the manufacturing processes for automotive systems. These materials like superalloys, stainless steel, hardened steel, ceramics, high silica aluminum, composites and others are very light and strong but because of their composition are extremely difficult to work when manufacturing parts and components. In order to maintain productivity and process improvements, superabrasives need to be used in all manufacturing operations. The characteristics and properties of superabrasives allow for more precision, less scrap and no metallurgical damage on the finished parts. These results are extremely important in all industries, but critical in the automotive industry. This conference is designed to provide a blend of commercial and technical topics and serve as a global "meeting of the minds" for technologists and business leaders. Historically, **INTERTECH** has been the most successful conference held on superabrasives, drawing global audiences from commercial and scientific communities with myriad disciplines. **INTERTECH 2015** will continue with that prevailing mission to be the largest, most expansive conference ever conducted in this industry. **INTERTECH 2015** will have global leaders in Research, Superabrasive Synthesis, Manufacturing and Application Development of superabrasives in attendance. Discover and share the most significant product developments and new applications in superabrasive technology at **INTERTECH 2015!**

WHY ATTEND INTERTECH 2015?

Diamond, Cubic Boron Nitride (cBN), polycrystallines, CVD Diamond, known as "superabrasives" are making greater strides in most industries. Today, superabrasives or ultra-hard materials are not only serving as abrasives for material removal, but also acting as wear materials, heat sinks, knives, laser windows, heat shields for spacecraft, prosthetics, nanodiamond vehicles to carry disease fighting drugs and other groundbreaking applications. These superabrasives are making it possible to economically use workpiece materials such as superalloys, high tech ceramics, metal matrix composites, bimetals and many more in manufacturing processes. Especially in Automotive we have seen the need for development of lighter and stronger materials from engine blocks and brake rotors to transmission and structural materials. These materials are finding their way into other industries that must meet the requirements of lighter and stronger components for better performance over longer periods of time. Economics now demand lighter and more fuel efficient airplanes, cars and trucks across the entire transportation industry. Leading manufacturers and service providers have made a major commitment to take full advantage of the properties of diamond and other ultrahard materials in their processes and applications. New workpiece materials, groundbreaking uses and an increased demand for productivity have heralded the need for superabrasives in every application possible. Machine tools are now being designed to take full advantage of superabrasive cutting tools, wheels and blades and this is just the beginning. Application of superabrasives has grown from the first use of natural diamond to grind tungsten carbide in the early 1940's to a broad range of high production applications across many manufacturing and service industries. From grinding and machining of ceramics, bi-metals, metal matrix composites and high silicon aluminum in automotive operations to metalworking of superalloys, high tech ceramics hardened steel and composites in aerospace as well as the sawing or drilling of stone and concrete or new uses of nanodiamond and CVD diamond & cBN, literally every industry is seeing the benefits of diamond and other ultra-hard material properties. Industries have made great strides by increasing productivity, reducing manufacturing & operating costs and implementing new technology. Whether it's the processing of stone from huge quarries, drawing wire, providing laser windows, shaping wood and laminates, grinding glass, texturing the close tolerances for the discs in electronic hard drives, providing medical breakthroughs in prosthetics or nanotechnology, growing large single crystals or coating base materials with diamond film, superabrasives are industry's choice for myriad solutions and cost effective processes. Much of this explosive growth has occurred in the last three decades. It is vital for continued prosperity that every company and individual, working or doing business in this burgeoning industry, devotes more time and resources to user education and application development. **INTERTECH 2015** has the unique position of global sponsorship and participation, bringing together technical and commercial experts with research and academic scientists to discuss applications, technical innovations and industry trends that will shape the future. **INTERTECH 2015** will serve as an international forum for all participants to meet and focus on specific issues related to superabrasive use with common goals of increased productivity, new technological development and reducing overall business costs.

Photos of Indianapolis for INTERTECH 2015 courtesy of Indianapolis Convention & Tourism Bureau.

MISSION STATEMENT

"**INTERTECH** conferences will serve as an international forum on new technology for diamond, cubic boron nitride (cBN) and other related materials classified as superabrasive or ultra-hard materials. **INTERTECH** will educate attendees and disseminate research and application development information covering these materials. **INTERTECH** will host all global manufacturing, technical, research, academic, commercial and end user organizations to share scientific breakthroughs and innovations. **INTERTECH** will adhere to the mission of blending technical innovation, research and product development with the ultimate focus on end user application."

KEY CONFERENCE FEATURES

- Technical and application presentations from all areas of interest to evaluate growth opportunities of diamond, cBN and other ultra-hard materials with a focus on performance and productivity
- Conference will feature Automotive and other major manufacturing industries and their leading edge manufacturing material requirements
- Outstanding venue at the Marriott Downtown Indianapolis Indiana USA, a great location with excellent weather in May of 2015
- A unique occasion to interact with technical and business leaders, scientists, peers, suppliers, academia, manufacturers, tool fabricators, machine tool builders and end users within the structure of a Global Technical Conference
- Reception to meet other attendees, presenters and business leaders
- Opportunity to hear experts from diverse technologies and to personally interact with all presenters and attendees
- Tabletop displays and exhibitions from leading companies in the industry with time to discuss products and solutions
- Keynote speakers from major Automotive and Manufacturing companies
- Chance to evaluate emerging technologies and materials for your own application situations
- Two full days with a total of 12 concurrent sessions of technical and commercial papers
- An open evening where attendees can take full advantage of the splendid sights, entertainment, dining and tourist attractions of the magnificent city of Indianapolis
- Opportunity to meet with leaders from major research companies, suppliers, end users and peers for networking and discussion
- Two days of wonderful meals, camaraderie and conversation
- All papers considered for publication in Finer Points Magazine
- Complimentary Proceedings to all attendees ... And much more!

INTERTECH 2015 Administrative Details

NO SMOKING PLEASE

Smoking is prohibited in all meeting facilities.

CLIMATE FOR INDIANAPOLIS, INDIANA USA IN MAY

Normal Max/ High Temperature 23°C (74°F)
Average Temperature 17°C (63°F)
Min/ Low Temperature 11°C (52°F)
Normal Precipitation 102mm (4in)
Number of Wet Days (probability of rain on a day) 13 (42%)
Average Sunlight per day 08:44
Average Daylight per day 14:20
Sunny (Cloudy) Daylight Hours 62% (38%)
Sun altitude at solar noon on the 21st day 70.5°
Evenings in May are cool and could require a light jacket or sweater.

CONFERENCE DRESS

Recommended dress for the conference attendees is business casual. Gentlemen presenters are asked to wear a jacket and ladies suitable business attire. Rooms are air conditioned, so a sweater or a jacket is recommended.

SPECIAL ASSISTANCE

Prior to the meeting, please call or email IDA Headquarters (Tel: 614-797-2265, email: tkane-ida@insight.rr.com) if any special assistance is required for any attendee. On-site, guests requiring special assistance should contact a member of the **INTERTECH 2015** staff at the Conference Desk.

SESSION RECORDINGS & PHOTOGRAPHY

Due to proprietary information and as a courtesy to our speakers, no audio and video recording or photography (including cell phones) of the presentations may be made without the prior written permission of the Industrial Diamond Association of America (IDA). All **INTERTECH 2015** presentations are copyrighted to the Industrial Diamond Association of America and the IDA reserves the right to prohibit the recording of presentations or photography even if it is intended for personal use.

MORNING

AFTERNOON

Evening

MORNING

AFTERNOON

Evening

INTERTECH 2015* Event Snapshot

Indianapolis, Indiana USA ● May 19 & 20, 2015

TUESDAY, MAY 19

CONTINENTAL BREAKFAST 7:00-8:00 am
REGISTRATION 8-12 Noon

8:00-8:45 am – Keynote Speaker from NASA

8:45-12 Noon
APPLICATIONS of
Diamond, Cubic
Boron Nitride
(cBN) & Other
ULTRA-HARD
MATERIALS IN
AUTOMOTIVE

- Designs for Industry Applications
- Machining & Grinding Exotic Materials

8:45-12 Noon
ADVANCEMENTS
IN
SUPERABRASIVE
MATERIALS

- Diamond & Cubic Boron Nitride Mesh
- Polycrystalline CVD Diamond & cBN
- Nanodiamond

8:45-12 Noon
ADVANCEMENTS
AND APPLICATION
OF AUTOMOTIVE
& AEROSPACE
MATERIALS

- Carbon Based Titanium
- Thermal Sprays
- Superalloys
- Composites
- Ceramics

12 NOON - 1:00 PM LUNCH

1:00 -1:45 pm – Keynote Speaker from Major Material Supplier

1:45 pm - 4:45 pm
PROCESSING
NEW MATERIALS
TO TIGHTER
TOLERANCES FOR
AUTOMOTIVE

- Superfinishing
- Fine Lapping
- Double Disc Grinding
- Other

1:45 pm - 4:45 pm
SUPERABRASIVE
CHALLENGES
FOR
INDUSTRY

- Machine Design
- Grinding Wheel Development
- Cutting Tool Advancements

1:45 pm - 4:45 pm
APPLICATION CASE
HISTORIES FOR
SUPERABRASIVES
ON AUTOMOTIVE
& AEROSPACE
COMPONENTS

- Repair/Refurbishing
- Turbine Buckets
- Engine Blocks
- Landing Gear

6:00 pm - 8:00 pm

WELCOME RECEPTION – Hors d'oeuvres & Cocktails

WEDNESDAY, MAY 20

CONTINENTAL BREAKFAST 7:00-8:00 am
REGISTRATION 8-12 Noon

8:00-8:45 am – Keynote Speaker from Major AUTOMOTIVE Manufacturer

8:45-12 Noon
ACADEMIA &
RESEARCH

- New Crystal Development
- Polycrystalline cBN
- Polycrystalline Diamond
- CVD Diamond
- Optics
- Electronics
- Medical

8:45-12 Noon
CONSTRUCTION
APPLICATIONS

- Superabrasives Innovation
- Abrasive Types & Properties
- Diamond Polishing
- Sawing & Drilling

8:45-12 Noon
CONSTRUCTION,
MINING, ENERGY,
OPTICS, MEDICAL,
WIRE & OTHER
INDUSTRIES USING
SUPERABRASIVES

- Prosthetics
- Wear Parts
- Sawing
- Drilling

12 NOON - 1:00 PM LUNCH

1:00 -1:45 pm – Keynote Speaker from Major Global AEROSPACE Technical / Research Organization

1:45 pm - 4:45 pm
ELECTRONICS,
MEDICAL AND
OTHER INDUSTRIES
USING
SUPERABRASIVES

- Grinding
- Machining
- Drilling
- Finishing
- Machine Tools

1:45 pm - 4:45 pm
GLASS
AND
OPTICS

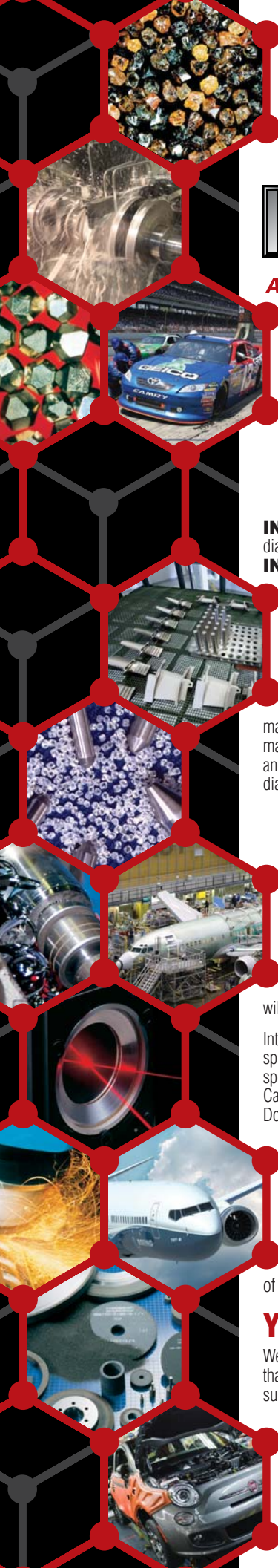
- Superabrasive Grinding Polishing Edging
- Diamond Windows Types & Application

1:45 pm - 4:45 pm
ENERGY, OPTICS,
MEDICAL, WIRE
AND OTHER
INDUSTRIES USING
SUPERABRASIVES

- Wire Drawing
- Polishing
- Knives
- Gears
- Specialty Machine Tools

OPEN EVENING

*** PROGRAM SUBJECT TO CHANGE DEPENDING ON
CONFIRMED SPEAKERS, SELECTED ABSTRACTS AND PAPERS**



The Industrial Diamond Association of America Announces INTERTECH 2015
May 19 & 20



INTERTECH 2015

An International Technical Conference on Diamond, Cubic Boron Nitride and their applications.

www.intertechconference.com

Indianapolis Downtown Marriott
INDIANAPOLIS, INDIANA USA
May 19 & 20, 2015

INTERTECH 2015 WILL BE THE FEATURED CONFERENCE FOR NEW TECHNOLOGY AND APPLICATION DEVELOPMENT OF SUPERABRASIVES AND SUPER-HARD MATERIALS

INTERTECH 2015 is the leading International Technical Conference on industrial diamond, cubic boron nitride, polycrystallines, CVD diamond, CVD Cubic Boron Nitride, Nanodiamond and other materials classified as superabrasives and ultra-hard materials.

INTERTECH 2015 will serve as a forum for leading experts representing international suppliers, manufacturers, research facilities, academia, end-users, machine tool builders and the scientific community. They will be presenting papers on subjects that will introduce new and thought-provoking technology on industrial and commercial levels. This will be an international "meeting of the minds" for every aspect of ultra-hard material science.

AUTOMOTIVE FEATURED INDUSTRY

With **INTERTECH 2015** being held in Indianapolis during May it follows that the automotive industry will be a featured industry. The automotive industry is a major user of superabrasives and implements new applications and innovations throughout their manufacturing operations using diamond and cubic boron nitride materials. The parts manufactured for automotive (including racing) are made from materials such as Metal Matrix Composites, High Silicon Aluminum, Ceramics, Bi-Metals, Glass and other difficult to machine and grind raw materials. These materials require the high productivity, close tolerances and superior performance attainable only by diamond and cBN tooling for machining, grinding and other material removal and finishing operations.

INDIANAPOLIS IS A MAJOR ATTRACTION...

Over 20 million people will arrive in Indianapolis next year. A few of these will attend **INTERTECH 2015**. In May, Indianapolis hosts the INDIANAPOLIS 500, heralded as The Greatest Spectacle in Racing. It is only appropriate that **INTERTECH**, the greatest spectacle in superabrasives, be held in the same month. **INTERTECH** has been held in many locations over the last 14 years and in 2015 this sensational event will be held in Indianapolis, Indiana USA. **INTERTECH** is known for excellent locations and exceptional service and **INTERTECH 2015** will carry on that tradition at the Indianapolis Marriott Downtown. We are anticipating the usual excellent attention and personal service that has become the standard of **INTERTECH** conferences. The Marriott boasts beautiful accommodations, revamped meeting rooms and luxurious amenities. The Marriott is conveniently located in the center of downtown Indianapolis surrounded by excellent restaurants, attractions and shops. **INTERTECH 2015** will be a rewarding technical experience complimented by this excellent venue.

Internationally famous, the Indianapolis Motor Speedway is home to the world's largest single-day sporting event, the Indianapolis 500. The track opened in 1909 and is the world's largest spectator facility. It is so large that you could fit the Roman Coliseum, Vatican City, Wimbledon Campus, Rose Bowl, Yankee Stadium and Churchill Downs inside the 2.5-mile oval. The Downtown Marriott is conveniently linked to Circle Centre, a four-level urban mall anchored by Carson Pirie Scott a downtown landmark. On the city's north side, The Fashion Mall at Keystone presents such options as Saks Fifth Avenue and Crate & Barrel. Smaller, uniquely local shops are found within the city's various Cultural Districts. Downtown has great restaurants, ranging from Shapiro's (one of America's greatest delis), to Goose The Market, one of the Top 10 U.S. sandwich shops, to St. Elmo Steak House, home of the hottest meal in the world. Other attractions include The Indianapolis Zoo (located in the nation's only urban cultural state park) is ranked among the nation's top 10 zoos and the Indianapolis Museum of Art – one of the country's 10 largest and oldest general art museums. All of this complements **INTERTECH 2015** to make it a "have to attend" conference!

YOU CAN BE A PART OF THIS EXCITING EVENT!

We are now soliciting commercial and technical papers of approximately 30-45 minutes in length that address the research of these super-hard materials as well as the dynamics and application of superabrasive systems in automotive and other industries as well (see: Areas of Consideration) with a focus on new technology, tooling, workpiece materials, machines and applications related to increased **PRODUCTIVITY** and **PERFORMANCE**. Consideration for papers is being made at this time and abstracts are now being accepted; contact us today to be considered. This will be the most comprehensive event ever held on super-hard materials for automotive and similar industries!

Photos of Indianapolis for INTERTECH 2015 courtesy of Indianapolis Convention & Tourism Bureau.



AREAS OF CONSIDERATION FOR PAPERS FEATURING PAPERS ON SUPERABRASIVES FOR AUTOMOTIVE

AUTOMOTIVE

- Parts Manufacturing
- Gears
- Wheels
- Transmissions
- Engines

MACHINE TOOLS

- Development
- Innovations
- Advancements
- Superabrasive

RESEARCH & DEVELOPMENT

- New Crystals & Abrasives

- New Coatings
- Bond Development
- Testing/Gauging
- Tool Fabrication
- Materials
- Tooling
- Application Development
- HPHT Technology
- Film (CVD & PVD)
- Magnetorheological Finishing
- Electrolytic In-process Dressing (ELID)

Mirror-Surface Grinding

- Nanotechnology

TOOLING

- Grinding Wheels
- Cutting Tools
- Drill Bits

WEAR PARTS

- Rests
- Anvils
- Nozzles

WORKPIECE MATERIALS

- Metal Matrix Composites
- Bi-Metals

- High Tech Ceramics
- High Silica Aluminum
- Glass
- New Materials & Alloys
- Thermal Sprays
- Superalloys
- Nano-Structured Materials

OTHER NEW TECHNOLOGY & APPLICATION DEVELOPMENT

OTHER INDUSTRIES AND TOPICS FOR CONSIDERATION

AEROSPACE

- Manufacturing
- Rebuilding

CONSTRUCTION/HIGHWAY

- Concrete Aggregates & Variables
- Highway/Runway
- Grinding & Grooving
- Bridge Repair
- Renovation
- Block Grinding
- Polishing

ELECTRONICS

- Disc Texturing
- Wafer Mfg.
- Polishing
- Optic Windows
- Semiconductors
- Heat Sinks

EMERGING TECHNOLOGY

- CVD Diamond
- Nanodiamond
- New Crystals
- Coatings

GLASS

- Lens Generation
- Polishing
- Pencil Edging

MACHINE TOOLS

- Development
- Innovations
- Advancements
- Superabrasive Adaptation

MEDICAL

- Surgical Knives
- Prosthesis Fabrication

MINING/DRILLING/NATURAL

RESOURCE EXPLORATION

- Drills & Bits
- Application

NANOTECHNOLOGY

- Medical Developments
- Industrial Applications
- Electronics
- Other Research & Developments

OTHER MANUFACTURING

- Pumps
- Motors
- Heavy Equipment

OPTICS

- Polishing
- Lens Generation
- Diamond Coating

RESEARCH & DEVELOPMENT

- New Crystals & Abrasives
- New Coatings
- Bond Development
- Testing/Gauging

- Tool Fabrication
- Materials
- Tooling
- Application Development
- HPHT Technology
- Film (CVD & PVD)
- Magnetorheological Finishing
- Electrolytic In-Process Dressing (ELID) Mirror-Surface Grinding
- Nanotechnology

STONE PROCESSING

- Quarrying
- Sawing
- Polishing

SUPPLIERS TO SUPERABRASIVE INDUSTRY

- Metals
- Coolants
- Measuring & Gauging
- Safety
- Pressing Equipment

TOOLING

- Grinding Wheels
- Cutting Tools
- Sawblades
- Drill Bits

WEAR PARTS

- Rests
- Anvils

Nozzles

WIRE DRAWING

- New Technology
- Applications
- Application
- Single Crystal
- PCD

WOODWORKING

- Hard Woods
- Fiberboard
- Laminates
- Composites

WORKPIECE MATERIALS

- Metal Matrix Composites
- Bi-Metals
- High Tech Ceramics
- High Silica Aluminum
- Wood & Wood Composites
- Glass
- Stone
- Concrete
- New Materials & Alloys
- Thermal Sprays
- Superalloys
- Nano-Structured Materials

OTHER NEW TECHNOLOGY & APPLICATION DEVELOPMENT

WATCH FOR INTERTECH 2015 ON-LINE

As you can see by the areas for paper consideration, diamond and cubic boron nitride are not just being used as abrasives in traditional applications. Today, superabrasives and ultra-hard materials are making inroads in electronics, medical, cosmetics and literally every other industry where the characteristics of diamond and cubic boron nitride can affect performance or provide higher strength or new capabilities. As an **INTERTECH** attendee you will learn how these new products and applications are being developed, where super-hard materials are being used and how you can apply these systems in new and innovative ways. Visit the **INTERTECH 2015** website: www.intertechconference.com for additional information on:

- CONFERENCE REGISTRATION
- ABSTRACT SUBMISSION
- LOCATION & TRAVEL
- SESSIONS & SCHEDULES
- PAPER GUIDELINES
- VISAS & INVITATION LETTERS
- SPEAKERS & TOPICS
- TABLETOP DISPLAYS
- KEYNOTE ADDRESSES
- ORGANIZING COMMITTEE CONTACTS

On-Line submission of abstracts is now available at www.intertechconference.com. If you wish to present a paper, you can also send a one or two paragraph abstract of your paper topic via email, fax or regular post to: Terry M. Kane, Chairman • **INTERTECH 2015** • P.O. Box 29460 • Columbus, Ohio 43229 • Telephone: 614-797-2265 • Fax: 614-797-2264 • e-mail: tkane-ida@insight.rr.com

ABSTRACTS WILL BE ACCEPTED FROM JULY 1, 2014 THROUGH FEBRUARY 1, 2015

We will reply to all submissions. Come join us! **INTERTECH** has the tradition of being the most comprehensive event held on superabrasives and ultra-hard materials.

(PLEASE PRINT CLEARLY AND FILL OUT COMPLETELY. **INCLUDE ABSTRACT**)

Honorific (Mr, Mrs, Miss, Ms.): _____

Last Name: _____ First Name: _____

Title (PhD, Dr., Other): _____ Business Title (CEO, Mgr., Eng., etc.): _____

Company: _____

Date: _____

Street Address: _____

City: _____ State/Province: _____ Zip/Postal Code: _____

Country: _____

Phone: _____ Fax: _____

Cell/MobilePhone: _____ Email: _____

Website: _____

Paper Title: _____

NEWS & notes



BOEING BUILDING NEW PLANT FOR COMPOSITE MATERIALS

December, 2014 – The Boeing Co. is building a new manufacturing plant in St. Louis to produce composite parts for wing and tail structures on its 777X commercial aircraft.



Construction should be complete in 2016, with manufacturing beginning in 2017. The 777X is a long-range, wide-body jet that is the world's largest twin-engine aircraft. Composites, or carbon-fiber reinforced plastics (CFRP), are made from two or more materials with different physical or chemical properties that combine to produce specific

characteristics. They are produced by assembling the materials in a two-sided mold set that forms the two surfaces of the panel. The assembly is placed in an autoclave for a process that high pressure and high temperature to create the composite structure. Earlier this year, Boeing chose its Everett, Wash., plant as the site for a new composite wing center for the 777X program to fabricate and assemble the wing structures and conduct final assembly for the new jets.

AUBURN HILLS, MICHIGAN - CHRYSLER GROUP LLC ANNOUNCES NEW COMPANY NAME: FCA US LLC



December 16, 2014 – The name change is effective immediately and follows the naming convention of its global parent company, Fiat Chrysler Automobiles N.V. (FCA), which officially adopted its new name in October when it listed on the New York Stock Exchange. The name change to FCA US LLC does not affect the company's headquarters location in Auburn Hills, Michigan, its holdings, management team, board or brands. FCA US, together with parent FCA, continues to work toward the business plan presented on Investor Day in May 2014. Additionally, the Company remains proud of its joint heritage. FCA US continues to build upon the solid foundations first established by Walter P. Chrysler in 1925 as well as a rich Fiat heritage that dates from 1899. FCA US employs more than 77,000 employees worldwide, with 96 percent of its workforce based in North America. FCA US operates 36 manufacturing facilities, including 23 in the United States, six in Canada and seven in Mexico.



AUTOMOTIVE CYBER SECURITY RESEARCH PARTNERSHIP IS LAUNCHED - NCC Group and WMG at the University of Warwick are to partner in a new research project that will focus on the security of automotive embedded systems.

December 2, 2014 – Most modern cars run software and have embedded systems that are connected to each other, which have made the car a major target for cyber criminals. The potential and realities of 'car hacking' are regularly making the headlines, with the automotive industry currently playing catch up in an attempt to improve the security of the systems that are currently used. NCC Group has extensive experience in the automotive space, working with a number of the major car manufacturers and developing bespoke tools to test and improve the IT infrastructure of modern vehicles. Professor Tim Watson, Director of the Cyber Security Centre, said: "WMG is one of the few industry focused research centres in the world that combines both a long history of manufacturing technology transfer to leading automotive vehicle manufacturers and also a centre of excellence in cyber security. Visit: <http://www2.warwick.ac.uk/fac/sci/wmg/research/csc/>

MANUFACTURING TECHNOLOGY ORDERS UP 3.8% IN 2014

December 8, 2014 – October U.S. manufacturing technology orders totaled \$417.80 million



according to The Association For Manufacturing Technology. This total, as reported by companies participating in the USMTO program, was down 35.0% from September and down 6.2% when compared with the total of \$445.64 million reported for October 2013. With a year-to-date total of \$4,150.41 million, 2014 is up 3.8% compared with 2013. These numbers and all data in this report are based on the totals of actual data reported by companies participating in the USMTO program. "As we move toward the end of 2014, we saw much of what we predicted for manufacturing technology orders through the year – low growth, but stability for order volume. The monthly drop from October isn't unexpected, as since 1998 orders have dropped an average of 24% in any month following IMTS," said Douglas K. Woods, President, AMT. "We continue to see growth in key industries, like automotive, medical, and aerospace. We believe the environment will stay ripe for capital equipment investment in 2015 and bring more good news for manufacturing overall."

Announcements & PRODUCTS

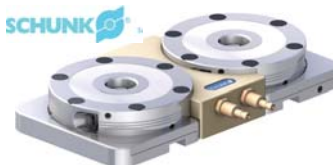
MICRO-BULLET HITS CONFIRM GRAPHENE'S POTENTIAL FOR BODY ARMOUR

December 1, 2014 – Graphene's great strength appears to be determined by how well it stretches before it breaks, according to researchers who tested it by firing micro-bullets at the material. Rice University researchers report that firing microscopic projectiles at multi-layer sheets of graphene allowed them to determine just how hard it is to penetrate at the nano level and how strong graphene could be at the macroscopic scale. While other labs have looked extensively at graphene's electronic properties and tensile strength, nobody had taken comprehensive measurements of its ability to absorb an impact. Researchers found graphene's ability to simultaneously be stiff, strong and elastic gives it extraordinary potential for use as body armour or for shielding spacecraft. The lab pioneered its laser-induced projectile impact test (LIPIT), which uses the energy from a laser to drive microbullets away from the opposite side of an absorbing gold surface at great speed. **For further information see:** <http://news.rice.edu>



THINNEST PNEUMATIC QUICK-CHANGE PALLET MODULE IN THE WORLD

With a module height of 20 mm, the VERO-S NSE mini module from SCHUNK provides ideal conditions for retrofitting existing machines, making full use of the engine room, and direct clamping of small workpieces. The patented drive concept consists of a fast stroke and a clamping stroke, ensuring that the compact module has a highly compact performance. At a module diameter of 90 mm, and a clamping pin diameter of only 20 mm, the NSE mini also has an integrated turbo function and enormous pullin forces up to 1500 N. Locking is done mechanically via spring force. The large contact surfaces between clamping slide and pin minimize the surface pressure in unclamped condition, and the wear of the module. Even small workpieces can be directly clamped, and are completely machined from five sides without restricting accessibility. All functional components, base body, clamping pin, and clamping slide are made of hardened stainless steel and are completely sealed to protect against chips, dust and coolant. **For more information, visit www.schunk.com**



RENISHAW

RENISHAW'S INTRODUCES EZ-IO SOFTWARE FOR THE EQUATOR™ FLEXIBLE GAUGE

New integration software facilitates setup of communications between cell controller and Equator Flexible Gauge. Process Monitor displays part-measurement histories.

December 1, 2014 – EZ-IO software allows intelligent functions, such as automatic re-mastering when the Equator detects a change in shop floor temperature, then directing a robot or shuttle system to load the master part into the gauge. EZ-IO includes the Process Monitor display, which provides a chart of the history of feature measurements, an invaluable feature for controlling manufacturing processes. The history shows a graphical view of proportion of tolerance for each feature. It also enables management of the mastering process according to temperature, time or number of parts measured. Equator is a radical alternative to traditional dedicated gauging. The low-cost programmable system is capable of high-speed comparative gauging for inline inspection of high-volume manufactured parts. It can switch between parts in seconds, making it ideal for flexible manufacturing processes or accepting parts from multiple machines. Its ability to use both touch-point and high-speed form scanning probes allows the Equator to perform the quickest possible inspection routines for any given part and feature – for a fraction of the cost of single-purpose hard gauges. **For more information, visit www.renishaw.com/gauging.**

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ABC
Superabrasives

WARREN
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ECO FRIENDLY
ABC Warren Superabrasives
is an eco-friendly company

Precision begins with the Powder

**Superior selection + certified manufacturing
Single source + global reach**

Precise and consistent sawing, drilling, grinding, lapping and polishing starts with the right diamond powder matched to the exact requirements for each application. The Saint-Gobain Surface Conditioning Group streamlines this process by providing a wide selection of options to cover challenges posed by almost every situation. Mesh product from ABC Superabrasives and Micron powder from Warren Superabrasives cover the particle spectrum from 16/20 mesh (~1000 microns) to 10 nanometers (10 x 10⁻⁹ meters). These powders are produced routinely and consistently in our state-of-the-art facilities. Best-in-class materials are provided to end users ranging from grinding wheel companies to magnetic recording head manufacturers.

Plus, our manufacturing facility in Olyphant, PA, USA is ISO 9001:2008 and ISO 14001:2004 certified, and our new plant in Handan, China is processing mesh diamond and CBN to help ensure optimal capacity and delivery the world over.

Call us today, or learn more online at www.abcwarren.com

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Tel # 570 383 3261
Fax # 570 383 3218
www.abcwarren.com
Email: abcsuperabrasives@saint-gobain.com

SAINT-GOBAIN

INDUSTRIAL DIAMOND ASSOCIATION OF AMERICA (IDA)

MEMBER COMPANIES

Contact an IDA Member Company for superior products and services related to the superabrasives and ultra-hard materials industry.

IDA Members follow a strict code of ethics to guarantee quality and dependability.

ALWAYS BUY FROM AN IDA MEMBER!

3M Abrasive Systems Division

Website: www.mmm.com

ABC & Warren/Amplex Superabrasives

Website: www.saint-gobain.com

Abrasive Technology

Website: www.abrasive-tech.com

Abrasivos Austromex, S.A. DE C.V.

Website: www.austromex.com.mx

Action Superabrasive Products, Inc.

Website: www.actionsuper.com

Advanced Abrasives Corporation

Website: www.advancedabrasives.com

American Superabrasives Corp.

Website: www.diamonds-abrasive.com

Anco Industrial Diamond Corp.

Website: www.ancodiamond.com

Apogee Precision Parts

Website: www.natchain.com

Asahi Diamond America

Website: www.asahidiamond.com

Bogimac NV-SA

Website: www.bogimac.com

Bruce Diamond Corp.

Website: www.brucediamond.com

Cdp Diamond Products Inc.

Website: www.cdpmdiamond.com

Chardon Tool & Supply Co., Inc.

Website: www.chardontool.com

Continental Diamond Tool Corp.

Website: www.cdtusa.net

Crystallume Engineered Diamond Products

Website: www.crystallume.com

Cutting Edge Services Corporation

Website: www.cuttingedgeservices.com

DCM-TECH, Inc.

Website: www.dcm-tech.com

Delaware Diamond Knives Inc.

Website: www.ddk.com

Desmond-Stephen Mfg Co.

Website: www.desmond-stephan.com

Dev Industrial Corp.

Website: www.dev-group.com

Diamond Industrial Tools

Website: www.todit.com

Dianamic Abrasive Products Inc.

Website: www.dianamic.com

Eastwind Lapidary, Inc.

Website: www.eastwinddiamondabrasives.com

Element Six

Website: www.e6.com

Eloquence Corporation

Website: www.corporationwiki.com/New-York/New-York/eloquence-corporation/36629788.aspx

Engis Corp.

Website: www.engis.com

FACT USA

Website: www.wmstrading.com

Website: www.factdiamond.com

Fives Landis Corp-Citco/Gardner

Website: www.fivesgroup.com

Fort Wayne Wire Die Inc.

Website: www.fwwd.com

Greenlee Diamond Tool Co.

Website: www.greenleediamond.com

Iljin USA, Inc.

Website: www.iljindiamond.com

Industrial Diamond Laboratories Inc.

Website: www.industrialdiamondlabs.com

Industrial Diamond Trading Corporation

Website: N/A

K & Y Diamond Ltd

Website: www.kydiamond.ca

Lach Diamond, Inc.

Website: www.lachdiamond.com

Lieber & Solow Co.

Website: www.lieberandsolow.com

Website: www.landssuperabrasives.com

Lunzer Technologies, Inc.

Website: www.lunzer.com

Mapal Inc.

Website: www.us.mapal.com

Megadiamond Inc.

Website: www.megadiamond.com

Morgan Advanced Materials and Technology

Website: www.morganplc.com

NanoMech

Website: www.nanomech.biz

National Research Co.

Website: www.nationalresearchcompany.com

Niabrazo Corp.

Website: www.niabrazo.com

Noritake Co Inc.

Website: www.noritake.com

Pinnacle Abrasives

Website: www.pinnaclesf.com

Precision Eforming

Website: www.precisioneforming.com

Protech Diamond Tool Inc.

Website: www.protechdiamondtoolsinc.com

Radiac Abrasives Inc.,

A Tyrolit Company

Website: www.radiac.com

Sandvik Hyperion

Website: www.hyperion-sandvik.com

Saint-Gobain Surface Conditioning Group (Saint-Gobain Ceramic Materials)

www.innovativeorganics.com

Scio Diamond Technology

Website: www.sciodiamond.com

sp3 Cutting Tools Inc.

Website: www.sp3cuttingtools.com

sp3 Diamond Technologies

Website: www.sp3diamondtech.com

Spec Tool

Website: www.spec-tool.com

Standard Die & Fabricating Inc.

Website: www.standarddie.com

H.C. Starck, Inc.

Website: www.hcstarck.com

Sumitomo Electric Carbide Inc. Materials Group

Website: www.sumicarbide.com/diamondgroup

Superabrasives Inc.

Website: www.superabrasives.com

Syntech Abrasives Inc.

Website: www.syntechabrasives.com

Tomei Corp. of America

Website: www.tomeidiamond.com

US Synthetic Corporation

Website: www.ussynthetic.com

Ulbrich Stainless Steels & Special Metals, Inc.

Website: www.ulbrich.com

Vollmer of America Corporation

Website: www.vollmer-us.com

Wemex Superabrasivos, S. DE R.L. DE C.V.

Website: www.wemex.com.mx

Worldwide Superabrasives, LLC

Website: www.worldwidesa.com

YG-1 USA

Website: www.yg1usa.com

Zhongnan Diamond Co., Ltd

Website: www.diamond-zn.com

ILJIN Diamond

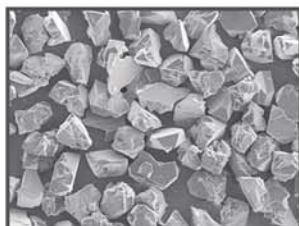
IBN

- Cubic Boron Nitride products suitable for grinding automotive and aerospace components



- ✓ Low power consumption
- ✓ Sharp cutting-edge
- ✓ Fast regeneration of sharp cutting edge
- ✓ Longer tool life

Excellent for
Cam · Crankshaft Grinding



- ✓ Friable & Irregular shape
- ✓ Low power consumption
- ✓ High efficiency production
- ✓ Sharp cutting-edge

Excellent for
Bearing Grinding



IBON

- PCBN (Polycrystalline Cubic Boron Nitride) composites available from low CBN content to high CBN content



for

- ✓ Cast Irons – Roughing: SB100 (Solid), Finishing: SB95N, SB95S2
- ✓ Hardened Steels Continuous – SB500, SB600
- ✓ Hardened Steels Interrupted – SB650, SB600, SB630, SB700
- ✓ Powdered Metals – SB700, SB95S2, SB95N
- ✓ Solid Form Available – SB100, SB500, SB600, SB630, SB650, SB700
- ✓ RTG (Ready To Grind) Available: Brazed Semi-Finished



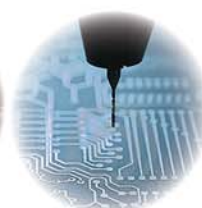
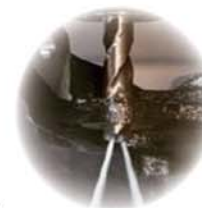
Tungsten Carbide products

- Available in various specifications



for

- ✓ PCB Micro Drill – N810X, M710
- ✓ PCB Router and End Mill – HF6
- ✓ End Mill, Drill, Reamer
 - EF8: Hardened steel, Cast iron, Al alloy
 - EF10, HF10, TH1008: General steel, Stainless steel, Ti alloy
 - EF12, HF12: Soft steel, Stainless steel, Cast iron
 - TH608: CFRP, Graphite (for CVD Diamond Coating)



INTERTECH 2015 ORGANIZING COMMITTEES

Every **INTERTECH** we strive to improve all aspects of the conference.

This year we not only will be offering our outstanding technical sessions, but we also have improved the features of the conference by structuring the program around superabrasive materials used in the automotive industry. To meet this challenge we have restructured the organizational committees for **INTERTECH**. This year the **INTERTECH** and the Industrial Diamond Association of America (IDA) are proud to introduce the three Committees that are ultimately responsible for putting together **INTERTECH 2015**. The three committees are the **STEERING & PLANNING COMMITTEES** and **TECHNICAL ADVISORY COMMITTEE**. These committees have been working together to produce the best combination of presentations and contributors to represent both the Technical and Practical Application sides of the superabrasive industry. The Steering & Planning Committees change each **INTERTECH** and consist of notable business leaders from across the industry. They have dedicated their time and efforts to see that **INTERTECH 2015** is a success on every level from the promotional materials, venue & speakers to the program, tabletop exhibits and daily events. Their efforts constitute years of planning and coordination to bring about this International Event.

STEERING COMMITTEE

- **Troy Heuermann**
3M ABRASIVE SYSTEMS DIVISION
- **Mike Mustin**
AMERICAN SUPERABRASIVES CORPORATION
- **Ed Francis**
CRYSTALLUME ENGINEERED DIAMOND PRODUCTS
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- **Aaron Nolan**
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- **Shane Hollenbaugh**
YG-1 USA

INTERTECH Chairman: Terry M. Kane, Executive Director

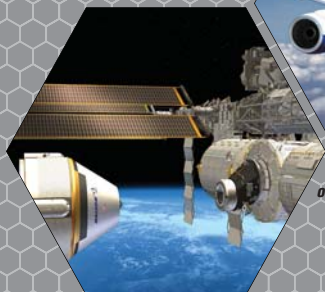
INTERTECH Meeting Planner: Kathy A. Kane, Business Manager,
INDUSTRIAL DIAMOND ASSOCIATION OF AMERICA, INC.

PLANNING COMMITTEE

- **Aaron Nolan**, WORLDWIDE SUPERABRASIVES – Cochairman
- **Keith Reckling**, NATIONAL RESEARCH CORPORATION – Cochairman
- **Matt Collier**, ELEMENT 6



Photos courtesy
of Boeing



Photos courtesy of
Chrysler Manufacturing



Photos courtesy
of Lockheed Martin,
Sikorsky Helicopter,
Pratt & Whitney and
Northrop Grumman



INTERTECH 2015 TECHNICAL ADVISORY COMMITTEE

The **INTERTECH 2015 TECHNICAL ADVISORY COMMITTEE** will provide the technical guidance and recommendations for the technical portion of **INTERTECH 2015**. They will also provide formal review of the submitted abstracts and papers to insure that the quality and content of each paper is relevant and representative of the technology for the superabrasives industry and guarantee each conference session will consist of the best research papers and state-of-the-art topics for our industry. The **TECHNICAL ADVISORY COMMITTEE** is a standing committee in itself to assist through-out the year to expand technical programs of the IDA and to make sure the content of technical information is legitimate, viable and valuable. Dr. Ion Benea will serve as the founding Chairman of this committee; future chair people to be voted on by committee. Anyone willing to serve has a position as long as they want it providing they follow IDA code of ethics as outlined in the IDA By-laws. The **TECHNICAL ADVISORY COMMITTEE** (as technical advisory body) will be made up of scientists and engineers well known in the world of superabrasives. The goal is to improve on the technical content of **INTERTECH** Conferences. Consequently, the IDA has reached out to industry, research and academia (universities) for help in forming this committee. The goal is for the Technical Advisory Committee to have a balanced composition between industry, research and academia.

TECHNICAL ADVISORY COMMITTEE - MEMBERS

For Biographies and photos visit www.intertechconference.com

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Diamond Innovations
Technology Manager, New Technology
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Zhengzhou Research Institute for Abrasives and Grinding, and
Deputy Director of Technical Expert Committee of IDA—China

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Head of Micro- and Nanosensor Department (GF5)
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Dept. of Production Engineering and Environmental
Management
Saitama, Japan

JOHN (Z.Y.) WANG, Ph.D.

Dept. of Mechanical Engineering
University of Nevada
Las Vegas, NV USA

JOHN WEBSTER, Ph.D.

Cool-Grind Technologies
Ashford, CT USA

PROF. LIANGCHI ZHANG, Ph.D.

Scientia Professor & Australian Professorial Fellow
School of Mechanical and Manufacturing Engineering
The University of New South Wales
New South Wales, Australia

Calendar of EVENTS

To have your event or conference listed, please send information to: **Finer Points Event Calendar** • P.O. Box 29460, Columbus OH 43229 • Fax 614-797-2264 or email: tkane-ida@insight.rr.com



JANUARY 14, 2015
HxGN LIVE Local Open House
48531 Warm Springs Blvd
Fremont, CA
<http://www.hexagonmetrology.us>



FEBRUARY 2-6, 2015
World of Concrete
Las Vegas Convention Center
Las Vegas, NV
<http://www.worldofconcrete.com>



FEBRUARY 2-5, 2015
Events at World of Concrete

FEBRUARY 2-3, 2015
CSDA Estimating Class

FEBRUARY 4-5, 2015
CSDA Hand Sawing & Drilling 101 Training

FEBRUARY 4-5, 2015
CSDA Concrete Polishing Class
Las Vegas Convention Center
Las Vegas, NV
info@csda.org
<http://www.csda.org>



FEBRUARY 10-12, 2015
Quality Expo 2015
Anaheim Convention Center
800 West Katella Ave.
Anaheim, CA
<http://qualityexpoanaheim.designnews.com>



FEBRUARY 10-12, 2015
MedTechWorld
Anaheim Convention Center I
Anaheim, CA
<http://mdmwest.mddionline.com>



MARCH 4-7, 2015
The MFG Meeting 2015
Orlando World Center Marriott
8701 World Center Dr.
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APRIL 21-23, 2015
Precision Machining Technology Show (PMTS) 2015
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2015 Offshore Technology Conference
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Indianapolis Marriott Downtown



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Half-page, Black & White		\$1710	\$1580
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1/3 page, 2-3/8"W x 10"H, B & W		\$1710	\$1580
1/4 page, 4-3/4"W x 4-3/4"H, Color		\$1580	\$1440
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\$170 - non-members All 2-1/4"W x 2-1/4"H	

2014 EDITORIAL CALENDAR

Planned issues, topics and closing dates*:

Issue:	Editorial Feature*:	Closing
Winter 2014/2015	Superabrasive Industry Review & INTERTECH 2015 Call for Papers	Dec. 1, 2014
Spring 2015	INTERTECH 2015 Preview Registration Issue	Feb. 1, 2015
Summer 2015	INTERTECH 2015 Review & Paper Synopsis	June 1, 2015
Fall 2015	Diamond cBN and Polycrystalline Materials	Sept. 1, 2015
Winter 2015/2016	Superabrasive Products & Materials	Dec. 1, 2015

*Editorial topics & closings subject to change

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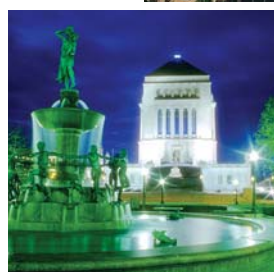
In the continuing effort to maintain a venue of interest and attraction for attendees, INTERTECH 2015 is scheduled for Tuesday May 19 and Wednesday May 20, 2015 at The INDIANAPOLIS DOWNTOWN MARRIOTT, INDIANAPOLIS, INDIANA USA
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GUEST EDITORIAL

Innovators Beware: Dangerous Intersection Ahead

By: Neal Thornberry, Ph.D.

Innovation is not for the faint of heart, as Galileo learned when he said that the Earth revolved around the sun. He was scorned, threatened with death and eventually put under lifetime house arrest. Innovators are not always welcome guests even within their own

organizations, and their challenges are heightened by a dangerous organizational intersection: where Complexity meets Wackiness. The more complex an organization, the more difficult it is for the innovator to figure out where to go with a good idea and how to weave it through the organization to implementation and eventually value creation.

There are many examples of Wackiness getting in the way of innovation – and examples of stealth innovators circumnavigating them. One of my favorites is the tale of Jim Repp, head of Jeep design at the old Daimler Chrysler Corporation. Jim knew that many Jeep lovers spent thousands of dollars upgrading their Wranglers for serious off-roading. This gave him the great idea for a mass-produced Jeep with all the upgrades built in at half the cost. When he shared his idea with marketing, they said there was no market for that type of vehicle and besides, you're an engineer, not a marketer.

Undeterred, Jim and a small band of innovators I call Innovation Judo masters built a secret prototype. They took it out on the Rubicon Trail in California for off-road trials and invited the senior executives to watch. Jim's prototype outperformed the other Wranglers and, as crowds gathered around it, the executives saw their enthusiasm. They immediately authorized production of what is now a best-selling icon, the Jeep Wrangler Rubicon.

Fortunately for Chrysler and other companies, there are a few passionate innovators like Jim who won't let go of their idea no matter what. They've developed a special set of skills (I call them Innovation Judo) that allow them to bypass those blocks. They are: Discipline; Leverage; Speed; Openings; Circling; Unbalancing; Redirection.

The Jim Repp story illustrates the application of several of these principles. The discipline to plan for building a secret prototype; leverage in getting senior executives to support his idea; utilizing the opening at the Rubicon Trail; and then using the surprise (a tactic of unbalancing) of a Jeep that looked like all the other jeeps on the trail but outperformed them. Since it takes so long to correct the dangers at the Complexity/Wackiness intersection, identifying and supporting a few Innovation Judo Masters can go a long way in overcoming some of the most difficult barriers to innovation.

About NEAL THORNBERRY, Ph.D.

Neal Thornberry, Ph.D. holds a doctorate in organizational psychology and specializes in innovation, corporate entrepreneurship, leadership and organizational transformation. He serves as the faculty director for innovation initiatives at the Center for Executive Education at the Naval Postgraduate School in Monterey, California and is the founder and CEO of IMSTRAT, LLC a consulting firm that specializes in helping private and public sector organizations develop innovation strategies. www.NealThornberry.com

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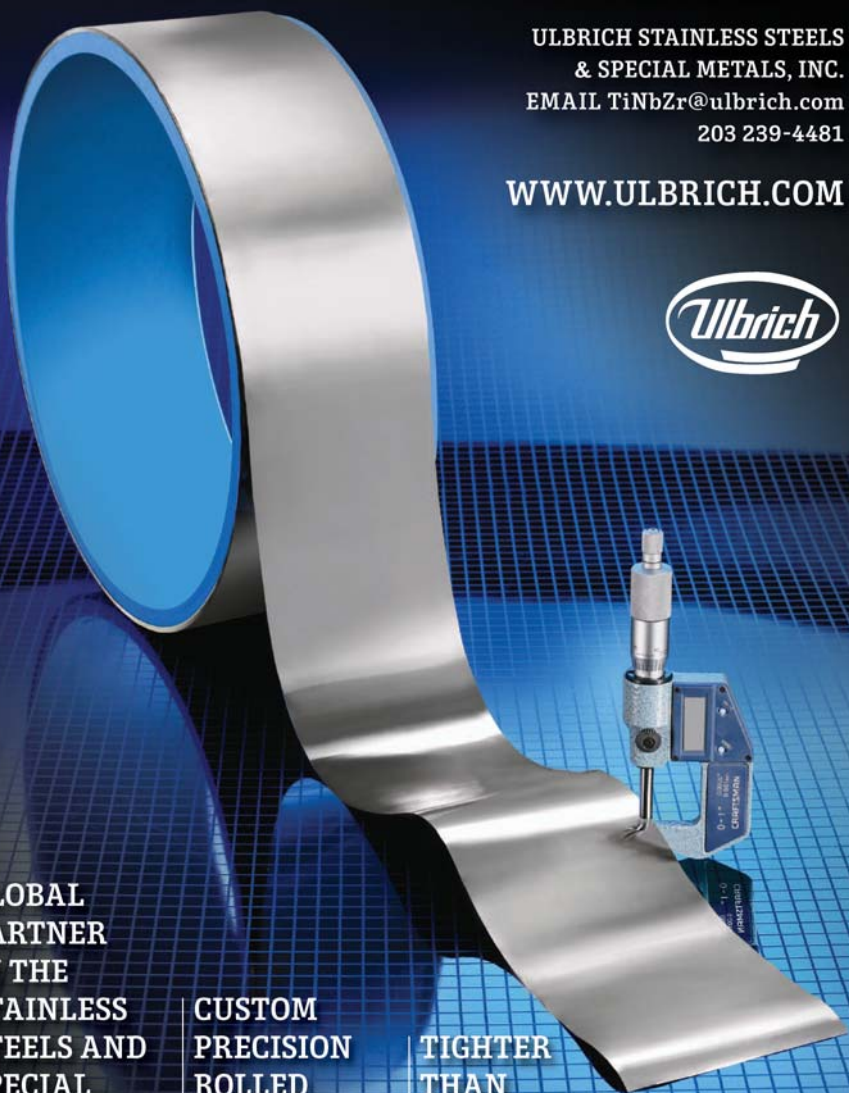


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or **INTERTECH Meeting Planner/ Business Manager:** Kathy Kane at: kathykgc@insight.rr.com

TABLETOP RESERVATION FORM

Another special feature of the **INTERTECH 2015** technical conference will be the inclusion of Technical/Product tabletop displays by participating companies. There will be a LIMITED number of spaces around the conference foyer and break area made available to companies that wish to exhibit.

Due to the limited space, reservations can only be guaranteed when the completed form and payment are received at IDA Headquarters or completed on-line. Additional companies seeking space will be put on a waiting list as received.

These spaces fill up early so make your reservation as soon as possible!

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WHAT IS INCLUDED?

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EXHIBIT PARAMETERS

Each display must be limited to the confines of the (6'x 2.5') tabletop with a **5 foot maximum height off the table** (ceiling height is only 8 feet). Large exhibits that stand on the floor are not allowed. No display may have loud music, audio or lighting that interferes with normal conversation, or is deemed problematic by conference management. No exhibit may have any flammable or hazardous materials, operating machinery or heavy equipment. Please direct any specific questions or concerns to IDA Headquarters – Telephone 614-797-2265, Email: tkane-ida@insight.rr.com.

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As in the past, we are looking forward to a large contingent of International attendees traveling to Indianapolis, Indiana for **INTERTECH 2015** and as much as possible, we will assist attendees in obtaining a Visa. Keep in mind the staff for **INTERTECH** has little or no influence or ability to "speed up" the process. That is all determined by the attendee's country of origin and the US Embassy in that country. Advance travel planning and early Visa application are extremely important, since

Visa applications are subject to a greater degree of scrutiny than in the past. **It is recommended that requests for a travel Visa to the USA be submitted to your local embassy as soon as possible and at least 3-4 months before INTERTECH 2015.**

DO YOU REQUIRE AN INVITATION LETTER FOR A VISA?

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WEBSITES FOR VISA INFORMATION

A citizen of a foreign country, wishing to visit the USA, generally must first obtain a Visa. If you go to the website: http://travel.state.gov/visa/visa_1750.html you will find the Visa section for Temporary Visitors to the USA: http://travel.state.gov/visa/temp/types/types_1286.html This site is an official source of information about the United States of America (U.S.A.) Visa policy and procedures and can assist in explaining new Visa policies and procedures for visitors to the United States.

HOW LONG WILL IT TAKE TO OBTAIN A VISA?

Recent changes in U.S. laws governing Visa policy and procedures have increased the amount of time it can take to obtain a Visa. **APPLY EARLY!** Even with the Visa processing improvements that have been made and will continue to be made, it is inevitable that delays will sometimes occur. Processing times will vary. The State Department's goal is Visa delivery no more than 30 days from the time of application in most cases, although cases that require administrative processing could take longer. Most administrative processing is resolved within 60 days of application. When administrative processing is required see: <http://travel.state.gov/content/visas/english/general/administrative-processing-information.html>, the timing will vary based on individual circumstances of each case. Therefore, before making inquiries about status of administrative processing, applicants or their representatives will need to wait at least 90 days from the date of interview or submission of supplemental documents, whichever is later. If you want to visit the U.S. and require a Visa, plan to schedule your Visa interview well in advance of your departure date. Learn more by reviewing this website information and contact the U.S. embassy or consulate where you will apply for detailed "how-to" instructions.

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Industrial Diamond Association of Japan
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Concrete Sawing & Drilling Association
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Elsevier Diamond Conference
www.diamond-conference.elsevier.com



Society of Manufacturing Engineers (SME)
www.sme.org



F.E.P.A.
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INTERTECH 2015

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 - b. All abstracts will be assigned a conference reference number (1501-1599) and the submitter will be notified by email of receipt. All further correspondence must reference this assigned number.
 - c. Abstracts will be reviewed by the INTERTECH Technical Advisory Committee (TAC)
 - d. After review each submitter will receive one of four notifications:
 - i. Paper accepted for final presentation
 - ii. Paper will be accepted with recommendations
 - iii. Paper will only be considered if a new abstract is submitted with changes by review committee included
 - iv. Paper refused as inappropriate for INTERTECH – Submitter may choose to submit a new abstract
 2. AFTER ABSTRACT ACCEPTED & APPROVED, THE FIRST FULL WRITTEN DRAFT OF PAPER IN MICROSOFT WORD MUST BE RECEIVED BY THE REVIEW COMMITTEE PRIOR TO MARCH 1, 2015. They may be emailed to tkane-ida@insight.rr.com. They may also be mailed to INTERTECH 2015 Paper # (include reference #) - P.O. Box 29460 - Columbus, Ohio 43229 USA. If Paper is being mailed on a CD they can be mailed to INTERTECH 2015 c/o Kane Global Communications, 6081 Central Park Drive, Columbus Ohio 43231 USA
 3. If paper is declined for content or appropriateness for this conference, suggestions or recommendations by the committee for paper clarification will be sent back to the author at that time.
 4. FINAL DRAFT (IN WORD) ALONG WITH YOUR POWERPOINT PRESENTATION WITH GRAPHICS AND PHOTOS MUST BE RECEIVED ON A CD BY MARCH 1, 2015 AT: INTERTECH 2015 CONFERENCE, 6081 CENTRAL PARK DRIVE, COLUMBUS, OHIO, 43231 USA. If the files are small enough, they may be emailed to tkane-ida@insight.rr.com.
 5. POWERPOINT PRESENTATION MUST ADHERE TO THE TEMPLATE FORMAT LISTED UNDER "PRESENTATION TEMPLATE" AT THE INTERTECH WEBSITE LINK
 6. Make sure your name, title, any contributors or coauthors as well as the INTERTECH 2015 reference number are included on the outside of the CD. This will be loaded into the Conference computers for projection. You are also advised to bring a backup CD or flash drive in case there is a problem with the one you mail.
 7. Multiple contributors may be listed on the paper, but the first person listed will be considered the presenter for the INTERTECH 2015. Additional contributors for the paper will be listed in the conference program as coauthors.
 8. English will be the language for all materials and oral presentation. Papers need to be written in English and we ask that a person with an excellent command of English, or English as their first language review the paper prior to submission for accuracy of terminology.
 9. Time allotted for each paper will be approximately 40 minutes, 30 minutes for the formal presentation and 10 minutes for questions.
 10. Please write paper using the third person to avoid commercialization and improve the credibility of the paper.
 11. It is preferred that instead of "I found", "we studied", "my results", "our company developed a process" and similar terminology, the paper be written and stated in terms of "it was found", "studies were made", "the results were" or "a process was developed".
 12. Advantages of product use or development in terms of productivity, savings or performance *must* be shown in all papers. Projected or proven examples should be included.
 13. Graphics should be clear and easy to read from the back of a large room, please use bullets and avoid too much text. When designing your slides it is better to have more slides with less text in a larger font, instead of fewer slides with more text in a small font. If you cannot read the text clearly on a computer screen in "normal slide view" the audience will not be able to read it either.
 14. Photographs of applications, products, parts, etc. **MUST** be included wherever possible. *Due to the many languages spoken by attendees, photos and graphics add clarification and understanding to the presentation.* This helps the audience understand many of descriptions, products and applications.
 15. Trade names must not be used for any products featured in the presentation and no company reference (except in terms of end use, such as General Motors, Boeing, Ford and the like) should be used in the presentation.
 16. Company logos, titles, etc. of presenters and their company may only be on the introductory slide/graphic and not used through the presentation or on every slide. This makes the paper look too commercial. If you are speaking about a company machine in a given operation, the photos should not show logos or company names.
 17. Text must be composed in Microsoft Word with indication of where graphics will be used. Graphics, photos and charts for presentation support must be created and submitted in Microsoft PowerPoint. This is being done to keep uniformity of the presentations and to allow for preloading of all presentations into the conference computer systems. Conference computers will be PCs loaded with Microsoft Office and will not open other programs.
 18. Overhead projectors or 35 mm slide projectors **will not be provided**. All presentation graphics/slides and photos will be shown on computer projection systems. **If a presenter require overheads, or another form of graphic support, they will need to submit a request in writing to the Program Review committee c/o Industrial Diamond Headquarters P.O. Box 29460, Columbus, Ohio 43229 by April 1, 2015 or email: tkane-ida@insight.rr.com**
- Papers and all graphics or slides become property of the Industrial Diamond Association of America and copyrighted for use at INTERTECH 2015. The Industrial Diamond Association of America reserves the right of first publication for any paper at INTERTECH 2015 and may authorize use of any paper as an article in other trade publications for consideration of promotion or technological advancement. Please contact Terry Kane, INTERTECH 2015 Conference Chairman - Telephone: 614-797-2265 Email: tkane-ida@insight.rr.com with any questions or points for clarification.
- We anticipate and excellent program and will be proud to have you as part of INTERTECH 2015 the international conference on diamond, CBN and their applications ...**





Industrial Diamond Association of America, Inc.

MEMBERSHIP APPLICATION

Company _____ Address _____
City _____ State _____ Zip Code/Postal Code _____ Country _____
Shipping Address (Can not ship to PO Box) _____
City _____ State _____ Zip Code/Postal Code _____ Country _____
Phone _____ Fax _____
E-mail _____ Web Site _____
Official Representative _____
Others (Participating in IDA Activities) _____
Principle Business Activity _____
Which applies to your company: _____ Corporation _____ Partnership _____ Sole Proprietorship
Provide names of principle officers or partners: _____
When was your company established? _____ List at least two business references which are current IDA REGULAR MEMBERS. **REQUIRED for Consideration**
How long has your company been engaged in superabrasive/ultra-hard material industry? 1. _____
2. _____

CHECK APPROPRIATE MEMBERSHIP

Regular Membership

Any company and/or individual classified as a superabrasive/ultra-hard material supplier, tool maker, machine tool builder or related business **which HAS an office and a local, state or province business license in the United States, Canada or Mexico** is eligible for membership in this category. Only one individual shall be designated by each member company as the IDA Delegate with voting and other privileges described in the By-Laws.

(DUES CATEGORY)

The dues category for Regular Members is determined by annual sales volume expressed in US \$ as indicated below.

Check to appropriate category:

Category 1	\$2,750 per year	Over \$20,000,000 Annual Sales
Category 2	\$2,090 per year	\$10,000,000 - \$19,999,999 Annual Sales
Category 3	\$1,850 per year	\$6,000,000 - \$9,999,999 Annual Sales
Category 4	\$1,450 per year	Under \$2,000,000 - \$5,999,999 Annual Sales
Category 5	\$1,095 per year	Under \$1,999,999 Annual Sales

International Membership

Any company and/or individual in the diamond and/or CBN business **which DOES NOT have an office and a local, state or province business license in the United States, Canada or Mexico** is eligible for membership in this category. An International member shall have all the privileges of regular membership, except that he/she cannot vote at any membership meetings, participate in statistical reporting for the North American market, hold proxies or serve in any office in IDA. Annual fee for International Member is **\$3990 per year**.

Associate Membership

Available for companies having a principal office in the U.S.A., Canada or Mexico, which are **providing products or services to companies within the superabrasive/ultra-hard material industry**, but are **not engaged** in selling, using or dealing in industrial diamonds, cubic boron nitride, compacted diamond/cbn, diamond film or products containing diamonds/cbn. An Associate member shall have all the privileges of regular membership, except that the Delegate cannot vote at any membership meetings, participate in statistical reporting for the North American market, hold proxies or serve in any office in IDA. Annual fee for an Associate is **\$600 per year**.

End User/Contractor Membership

Available for any global companies or individuals, which USE products classified as superabrasives or ultra-hard materials, but are **NOT ENGAGED IN SELLING** industrial diamonds, cubic boron nitride, compacted diamond/cbn, diamond film or products containing diamonds/cbn. An End User/Contractor member shall have all the privileges of regular membership, except that the Delegate cannot vote at any membership meetings, participate in statistical reporting for the North American market, hold proxies or serve in any office in IDA. Annual fee for an End User/Contractor is **\$400 per year**.

Academia/Research Membership

Any non-profit Academic institution or R & D organization is eligible for membership in this category. An Academia/Research member shall have all the privileges of regular membership, except that the Delegate cannot vote at any membership meetings, participate in statistical reporting for the North American market, hold proxies or serve in any office in IDA. Annual fee for Academia/Research is **\$175 per year**.

Student Membership

Any FULL TIME Student **NOT ENGAGED IN SELLING** industrial diamonds, cubic boron nitride, compacted diamond/cbn, diamond film or products containing diamonds/cbn is eligible for membership in this category. A Student shall have all the privileges of regular membership, except that he/she cannot vote at any membership meetings, participate in statistical reporting for the North American market, hold proxies or serve in any office in IDA. Annual fee for a Student Membership is **\$100 per year**.

Senior Membership

Any individual who has worked for and/or retired from an IDA Member company or is no longer active in the diamond or CBN business is eligible for membership in this category. A senior member shall have all the privileges of regular membership, except that he/she cannot vote at any membership meetings, participate in statistical reporting, hold proxies or serve in any office in IDA. Annual fee for a Senior is **\$75 per year**.

Name of Delegate Member: _____

Title: _____

E-Mail: _____

*** Applications for ALL Memberships are reviewed by the Board of Directors and must be approved by a two-thirds vote.**

Affiliate Membership

Each company that enrolls as an IDA Member is entitled to have a second person at that company designated an Affiliate Member. The first Affiliate member will receive IDA material at no further cost. Additional persons at Member companies can be added as Affiliate Members to receive IDA materials. Annual fee for additional Affiliates is \$100 per person. Name of 1st Affiliate Member (no charge): _____

Name of 1st Affiliate Member (no charge): _____

Name of 2nd Affiliate Member (\$100): _____

Name of 3rd Affiliate Member (\$100): _____

If your company wants more Affiliate Members, please attach additional sheets.

WHAT IS THE IDA?

The Industrial Diamond Association of America, Inc. is a non-profit trade association and was incorporated on March 29, 1946 in the State of New York. It is the oldest and most prestigious association in the superabrasive/ultrahard materials industry. Activity and focus has evolved from natural diamond to superabrasives and most recently, to all ultrahard materials including CVD Diamond. Members include material suppliers, tool manufacturers, component producers, machine tool builders, end users, academia/research affiliates and other companies related to the research, manufacture, application, use and sales of superabrasives.

WHAT DOES THE IDA DO?

- ◆ Oversees Statistics Reporting Program
- ◆ Establishes Industry Standards
- ◆ Interacts With Global Associations And Organizations
- ◆ Creates And Distributes Market Studies & Data
- ◆ Organizes And Presents Technical Seminars & Conferences
- ◆ Serves As A Government Liaison For Industry Guidelines And Regulations
- ◆ Participates As Member Of World Diamond Council
- ◆ Provides Safety / Regulatory Reports And Advisement
- ◆ Resource For General Information And Consultation

OTHER MEMBER SERVICES

- ◆ PUBLISHES QUARTERLY MAGAZINE
- ◆ HOLDS ANNUAL CONVENTIONS
- ◆ HOSTS IDA WEBSITE WITH MEMBER FOCUS AND DIRECTION
- ◆ PROVIDES SPECIFIC ASSISTANCE ON INDIVIDUAL MEMBER ISSUES
- ◆ CREATES AND DISTRIBUTES PUBLICATIONS ON PRODUCTS AND APPLICATIONS
- ◆ ACTS AS A COLLECTIVE VOICE FOR INDUSTRY CONCERNS

FAX completed membership form to 614-797-2264

Finer Points

CHECKLIST OF THINGS TO DO

- ☐ Renew my subscription to Finer Points magazine.
- ☐ Reserve my ad space in the next Finer Points issue.
- ☐ Submit article for consideration in future Finer Points issue.
- ☐ Send Finer Points my business news, new products, new hires, promotions, industry news and other press release items.
- ☐ Send in my membership application to the IDA.
- ☐ Refer a company to IDA for consideration as a member.
- ☐ Visit the IDA Website at: www.superabrasives.org.
- ☐ Contact an IDA member for products or services.

We Are Not Alone



There's a wonderful world around us. Full of fascinating places. Interesting people. Amazing cultures. Important challenges. But sadly, our kids are not getting the chance to learn about their world. When surveys show that half of America's youth cannot locate India or Iraq on a map, then we have to wonder what they do know about their world.

That's why we created MyWonderfulWorld.org. It's part of a free National Geographic-led campaign to give your kids the power of global knowledge. Go there today and help them succeed tomorrow. Start with our free parent and teacher action kits. And let your kids begin the adventure of a lifetime.



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Approximate Taxi Rate from Indianapolis International Airport to Indianapolis Downtown Marriott - \$30.00-\$40.00 USD (depending on traffic)

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Indianapolis, Indiana 46225 USA
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Fax: (317) 822-1002

For driving directions please enter the above address into your GPS system.



SHUTTLE INFORMATION

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http://goexpresstravel.com/indy_express

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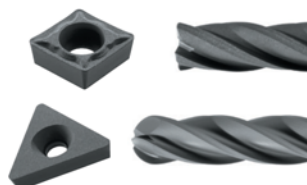
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WWSA LAUNCHES NEW SOLIDS WEBSITE



WWW.WORLDWIDESOLIDS.COM

Worldwide Solids LLC, a division of Worldwide Superabrasives LLC, proudly announces the launch of their new website found at www.worldwidesolids.com. The new Worldwide Solids website enables end users to download our PCD/PCBN/CVD product catalogs and highlights our product characterization and quality control laboratory which includes a D9600 Sonoscan, JOEL SEM with EDS and Keyence VHX 2000 Digital 3D Microscope.

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* Grinding tests conducted by Element Six with ABN900 50/60 US Mesh show the potential for extending tool life by up to 35%. Tests using ABN900 120/140 US Mesh show the potential for extending tool life by up to 55%. Contact Element Six for details of these tests, product samples and results.



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